Demand In Rural Healthcare Facilities

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INTRODUCTION

A recent study by the U.S. Department of Health and Human Services "Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020" found a national RN shortage of 6% in 2000. This shortage is expected to continue and is predicted to increase to a 29% shortage by 2020. Although North Dakota was not included in the states that had a shortage in 2000, a 3.2% RN shortage is predicted for North Dakota by 2005 with an increase to 24% by 2020.

The North Dakota Nursing Needs (NDNN) study was mandated by the NDCC Nurse Practices Act 43-12.1-08.2, in which the North Dakota Board of Nursing was directed to address issues of supply and demand for nurses including the issues of recruitment, retention and utilization of nurses. The North Dakota Board of Nursing contracted with the Center for Rural Health at the School of Medicine and Health Sciences at the University of North Dakota to conduct the Nursing Needs study.

First year data collection included a facility survey, which was sent to all hospitals, long-term care facilities, clinics, home health and regional public health facilities in ND. The facility survey was designed to examine recruitment efforts, retention efforts, and demand for nurses in ND. Results from the NDNN facility survey provide a comprehensive picture of the nature of nursing employment and potential shortages throughout ND. This allows comparisons to be made between various types of health care facilities across the rural - urban continuum in ND. With the NDNN facility survey results comparison to national data is also possible.

METHOD

NDNN facility survey questions were derived from national surveys including the Robert Wood Johnson Foundation Nursing Shortage Study: Chief Nursing Officer Interview Tool (Kimball & O'Neil, 2002), the American Organization of Nurse Executives Acute Care Hospital Survey of RN Vacancy and Turnover Rates (HSM Group, 2002), and the American Journal of Nursing Survey (Shindul-Rothschild, Berry & Long-Middleton, 1996). None of the national surveys addressed LPNs, so several of the questions were modified to be appropriate to LPNs.

Surveys were mailed to the directors of nursing (DON) of all ND hospitals (N=47), long-term care facilities (N=125), regional public health facilities (N=28), home health care facilities (N= 41), and clinics (N=286); a total of 527 facilities. Mailing lists were derived from an extant list at the Center for Rural Health, which was augmented with information from the 2001 North Dakota Medical Services Directory. The survey was accompanied by a cover letter outlining the purpose of the NDNN study. Participants were asked to mail surveys back to the Center for Rural Health in postage-paid envelopes. Surveys were sent between August 2002 and October 2002. Participants not returning their survey within one month were sent another copy and given two weeks to respond. Hospitals and long-term care facilities not responding within two months were contacted by either the ND Healthcare Association or the ND Long-term care Association respectively.

RESULTS

Data were divided by Urban Influence Codes (Ghelfi & Parker, 1997). Urban Influence Codes are used to classify counties according to size of metropolitan areas, proximity to metropolitan areas, and population of the largest city within the county. There are nine codes including two metropolitan categories and seven non-metropolitan categories. Due to the rural nature of ND, ND counties were collapsed into three larger categories based on the original Urban Influence Codes.

Urban counties were defined as those small metropolitan counties with fewer than one million residents (4 counties in ND).

Semi-rural counties were defined as non-metropolitan counties adjacent or not adjacent to a small metropolitan county with a town containing at least 2,500 residents (20 counties in ND).

Rural counties were defined as those not adjacent to a small metropolitan area, which do not contain a town with at least 2,500 residents (29 counties in ND).

Respondents:

85% of hospitals; 71% of long-term care facilities; 82% of regional public health facilities; 68% of home health facilities; and 39% of clinics completed surveys. Most (i.e. ≥60%) facilities, across facility type, employ RNs and many (i.e. ≥30%) indicated that they employ LPNs.

Vacancy rates:

Vacancy rate is defined as the average number of vacant FTE positions divided by the average number of budgeted FTE positions for the same year. According to economists, a full workforce in most industries exists when vacancy rates do not exceed five to six percent (Prescott, 2000). A shortage is considered to be present at a sustained vacancy rate above six percent. Nationally, RN vacancy rates in hospitals average between 10.2 (HSM Group, 2002) and 15 percent (AHA, 2002). The vacancy rate for RNs in ND ranges from 0 to 11% by facility type across the urban-rural continuum (see Table 1). The vacancy rate for LPNs in ND ranges from 0 to 14% by facility type across the urban-rural continuum (see Table 2).

Table 1. RN Vacancy Rates by Facilities

	Urban	Semi-rural	Rural	Total
Hospitals	9%	3%	8%	8%
Long Term	9%	8%	11%	9%
Public Health	8%	2%	0%	4%
Home Health	1%	0%	4%	1%
Clinics	4%	5%	8%	4%

Table 2. LPN Vacancy Rates by Facilities

	Urban	Semi-rural	Rural	Total
Hospitals	9%	6%	6%	8%
Long Term	3%	8%	14%	9%
Public Health	0%	0%	0%	0%
Home Health	0%	0%	9%	2%
Clinics	7%	3%	9%	7%

Vacancy Effects:

Respondents were asked how RN and LPN vacancies affected their operations in the past year.

The most frequent effects of RN vacancies included higher costs to deliver care in hospitals (55%) and an increase in cross-training (50%). The most frequent effect of RN vacancies in long-term care facilities was an increase in the number of LPNs (31%) and a reduction in RNs providing direct patient care (24%). Regional public health facilities most frequently increased cross-training of staff (14%). Home health facilities most frequently substituted part-time, per diem or temporary RNs for full-time (39%) and increased cross-training (25%). Clinics most frequently substituted part-time, per diem or temporary RNs for full-time (14%), and had higher costs to deliver care (14%).

As a result of LPN vacancies, hospitals most frequently had higher costs to deliver care (35%), increased cross-training (30%), increased number of patients per LPN (30%), and ER overcrowding (30%). Long-term care facilities most frequently, substituted part-time or temporary LPNs for full-time staff (22%) and had higher costs to deliver care (19%). Regional public health facilities most frequently reduced or eliminated services (18%) as a result of LPN vacancies. Home health facilities most frequently increased cross training (31%) as a result of LPN vacancies. Clinics most frequently increased cross-training (14%) and reassigned LPNs (13%) as a result of LPN vacancies.

Hiring Difficulty:

Respondents were asked to indicate the extent their institution had difficulty recruiting RNs and LPNs on a 5-point scale, with 1 indicating no difficulty and 5 indicating very difficult. Responses were collapsed over the five-point scale in the following manner: facilities indicating a rating of 1 or 2 were considered to have had no difficulty recruiting. Those indicating a response of 3 were considered to have been experiencing a moderate degree of difficulty recruiting. Those indicating 4 or 5 were considered to have been experiencing significant difficulty recruiting RNs or LPNS. Urban facilities are experiencing some difficulty recruiting but across facility type semi-rural and rural facilities have had the most difficulty recruiting RNs and LPNs during the last year.

55% of hospitals, 42% of long-term care facilities, 14% of regional public health facilities, 32% of home health facilities, and 20% of clinics have significant difficulty (indicated ≥ 4 on a 5 point scale) recruiting RNs (see Figure 1).

Facilities that hire LPNs had similar difficulties recruiting: 60% of hospitals, 33% of long-term care facilities, 18% of regional public health facilities, 6% of home health facilities, and 27% of clinics reported having significant difficulty (indicated ≥ 4 on a 5 point scale) recruiting LPNs (see Figure 2).

Figure 1. Facilities Having Significant Difficulty Recruiting LPNs

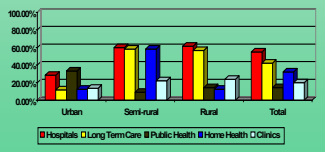
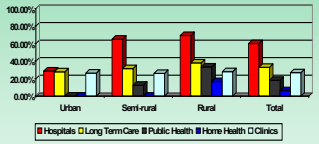


Figure 2. Facilities Having Significant Difficulty Recruiting LPNs



DISCUSSION

More than half of the hospitals taking part in the NDNN study, primarily semi-rural and rural hospitals, reported having significant difficulty in recruiting RNs and LPNs. Many long-term care facilities in semi-rural and rural counties reported difficulty in recruiting RNs along with home health facilities in semi-rural counties. These results are supported by the vacancy rate data from the NDNN study, which indicate that many facilities may be experiencing a nursing shortage of RNs and LPNs.

There are many effects associated with RN vacancies including higher costs to deliver care, increases in cross-training, increase in number of LPNs and substitution of part-time, per diem or temporary RNs. The effects of LPN vacancies include higher costs to deliver care, increases in cross training, an increase in the number of patients assigned per LPNs, substitution of part-time, per diem or temporary LPNs and reduced or eliminated services.

The combination of high rates of vacancy and difficulty hiring RNs and LPNs is a powerful sign of an impending shortage of nurses in ND.

For more information regarding this poster or the North Dakota Nursing Needs Study, please contact Dr. Patricia Moulton at 701-777-6781 or pmoulton@medicine.nodak.edu. Results are available on the Center for Rural Health website at www.med.und.nodak.edu/depts/rural.